SEQUENCE LISTING

<110> National Institute of Advanced Industrial Science and Technology
Fujirebio Incorporated

<120> β1, 3-N-ACETYL-D-GALACTOSAMINE TRANSFERASE PROTEIN, NUCLEIC ACID ENCODING THE SAME AND METHOD OF EXAMINING CANCERATION USING THE SAME

<130> PC/S-84-6

<160> 27

<210> 1
<211> 1503
<212> DNA
<213> Homo sapiens

<400> 1
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caggtgaaca agctgtggta caagcccgtg gaacaattca tcttaccaga gagctttgaa 660

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ctgtgtgaga agacctgtga gacaggaatg ctgtcttctc ctcagtattc tccgtgggaa 1440
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taa 1503

<210> 2
<211> 500
<212> PRT
<213> Homo sapiens

<400> 2

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			20					25				30			
Gly	Ala	Gly	Pro	Ala	Asp	Gln	Leu	Ala	Leu	Phe	Pro	Gln	Trp	Lys	Ser
		35					40				45				
Thr	His	Tyr	Asp	Val	Val	Val	Gly	Val	Leu	Ser	Ala	Arg	Asn	Asn	His

50 55 60

Glu Leu Arg Asn Val Ile Arg Ser Thr Trp Met Arg His Leu Leu Gln
65 70 75 80

His Pro Thr Leu Ser Gln Arg Val Leu Val Lys Phe Ile Ile Gly Ala
85 90 95

His Gly Cys Glu Val Pro Val Glu Asp Arg Glu Asp Pro Tyr Ser Cys
100 105 110

Lys Leu Leu Asn Ile Thr Asn Pro Val Leu Asn Gln Glu Ile Glu Ala
115 120 125

Phe Ser Leu Ser Glu Asp Thr Ser Ser Gly Leu Pro Glu Asp Arg Val
130 135 140

Val Ser Val Ser Phe Arg Val Leu Tyr Pro Ile Val Ile Thr Ser Leu
145 150 155 160

Gly Val Phe Tyr Asp Ala Asn Asp Val Gly Phe Gln Arg Asn Ile Thr
165 170 175

Val Lys Leu Tyr Gln Ala Glu Gln Glu Glu Ala Leu Phe Ile Ala Arg
180 185 190

Phe Ser Pro Pro Ser Cys Gly Val Gln Val Asn Lys Leu Trp Tyr Lys
195 200 205

Pro Val Glu Gln Phe Ile Leu Pro Glu Ser Phe Glu Gly Thr Ile Val
210 215 220

Trp Glu Ser Gln Asp Leu His Gly Leu Val Ser Arg Asn Leu His Lys
225 230 235 240

Val Thr Val Asn Asp Gly Gly Gly Val Leu Arg Val Ile Thr Ala Gly
245 250 255

Glu Gly Ala Leu Pro His Glu Phe Leu Glu Gly Val Glu Gly Val Ala
260 265 270

Gly Gly Phe Ile Tyr Thr Ile Gln Glu Gly Asp Ala Leu Leu His Asn
275 280 285

Leu His Ser Arg Pro Gln Arg Leu Ile Asp His Ile Arg Asn Leu His
290 295 300
Glu Glu Asp Ala Leu Leu Lys Glu Glu Ser Ser Ile Tyr Asp Asp Ile
305 310 315 320
Val Phe Val Asp Val Val Asp Thr Tyr Arg Asn Val Pro Ala Lys Leu
325 330 335
Leu Asn Phe Tyr Arg Trp Thr Val Glu Thr Thr Ser Phe Asn Leu Leu
340 345 350
Leu Lys Thr Asp Asp Asp Cys Tyr Ile Asp Leu Glu Ala Val Phe Asn
355 360 365
Arg Ile Val Gln Lys Asn Leu Asp Gly Pro Asn Phe Trp Trp Gly Asn
370 375 380
Phe Arg Leu Asn Trp Ala Val Asp Arg Thr Gly Lys Trp Gln Glu Leu
385 390 395 400
Glu Tyr Pro Ser Pro Ala Tyr Pro Ala Phe Ala Cys Gly Ser Gly Tyr
405 410 415
Val Ile Ser Lys Asp Ile Val Lys Trp Leu Ala Ser Asn Ser Gly Arg
420 425 430
Leu Lys Thr Tyr Gln Gly Glu Asp Val Ser Met Gly Ile Trp Met Ala
435 440 445
Ala Ile Gly Pro Lys Arg Tyr Gln Asp Ser Leu Trp Leu Cys Glu Lys
450 455 460
Thr Cys Glu Thr Gly Met Leu Ser Ser Pro Gln Tyr Ser Pro Trp Glu
465 470 475 480
Leu Thr Glu Leu Trp Lys Leu Lys Glu Arg Cys Gly Asp Pro Cys Arg
485 490 495
Cys Gln Ala Arg
500

<210> 3

<211> 1515

<212> DNA

<213> Mouse

<400> 3

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tcagccttat ttcctcactg gaaatttagc cactatgatg tggtagttgg tgtgttatca 180
gctcgaaata accacgaact tcgaaatgtg ataaggaaca cctggctgaa gaatttgctg 240
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ctgtggctgt gtgagaaaac ctgtgagaca ggaatgctgt cttctcctca gtactcacca 1440
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<210> 4
<211> 504
<212> PRT
<213> Mouse

<400> 4

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Leu His Leu Trp His Leu Trp Leu Arg Ser Pro Pro Asp Pro His Asn
            20                  25                  30
Thr Gly Pro Ser Ala Ala Asp Gln Ser Ala Leu Phe Pro His Trp Lys
        35                  40                  45
Phe Ser His Tyr Asp Val Val Val Gly Val Leu Ser Ala Arg Asn Asn
    50                  55                  60
His Glu Leu Arg Asn Val Ile Arg Asn Thr Trp Leu Lys Asn Leu Leu
65                  70                  75                  80
His His Pro Thr Leu Ser Gln Arg Val Leu Val Lys Phe Ile Ile Gly
                85                  90                  95
Ala Arg Gly Cys Glu Val Pro Val Glu Asp Arg Glu Asp Pro Tyr Ser
            100                 105                 110
Cys Arg Leu Leu Asn Ile Thr Asn Pro Val Leu Asn Gln Glu Ile Glu
        115                 120                 125
Ala Phe Ser Phe Pro Glu Asp Ala Ser Ser Ser Arg Leu Ser Glu Asp
    130                 135                 140
Arg Val Val Ser Val Ser Phe Arg Val Leu Tyr Pro Ile Val Ile Thr
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145 150 155 160

Ser Leu Gly Val Phe Tyr Asp Ala Ser Asp Val Gly Phe Gln Arg Asn

165 170 175

Ile Thr Val Lys Leu Tyr Gln Thr Glu Gln Glu Glu Ala Leu Phe Ile

180 185 190

Ala Arg Phe Ser Pro Pro Ser Cys Gly Val Gln Val Asn Lys Leu Trp

195 200 205

Tyr Lys Pro Val Glu Gln Phe Ile Leu Pro Glu Ser Phe Glu Gly Thr

210 215 220

Ile Val Trp Glu Ser Gln Asp Leu His Gly Leu Val Ser Arg Asn Leu

225 230 235 240

His Arg Val Thr Val Asn Asp Gly Gly Gly Val Leu Arg Val Leu Ala

245 250 255

Ala Gly Glu Gly Ala Leu Pro His Glu Phe Met Glu Gly Val Glu Gly

260 265 270

Val Ala Gly Gly Phe Ile Tyr Thr Val Gln Glu Gly Asp Ala Leu Leu

275 280 285

Arg Ser Leu Tyr Ser Arg Pro Gln Arg Leu Ala Asp His Ile Gln Asp

290 295 300

Leu Gln Val Glu Asp Ala Leu Leu Gln Glu Glu Ser Ser Val His Asp

305 310 315 320

Asp Ile Val Phe Val Asp Val Val Asp Thr Tyr Arg Asn Val Pro Ala

325 330 335

Lys Leu Leu Asn Phe Tyr Arg Trp Thr Val Glu Ser Thr Ser Phe Asp

340 345 350

Leu Leu Leu Lys Thr Asp Asp Asp Cys Tyr Ile Asp Leu Glu Ala Val

355 360 365

Phe Asn Arg Ile Ala Gln Lys Asn Leu Asp Gly Pro Asn Phe Trp Trp

370 375 380

Gly Asn Phe Arg Leu Asn Trp Ala Val Asp Arg Thr Gly Lys Trp Gln
385 390 395 400
Glu Leu Glu Tyr Pro Ser Pro Ala Tyr Pro Ala Phe Ala Cys Gly Ser
405 410 415
Gly Tyr Val Ile Ser Lys Asp Ile Val Asp Trp Leu Ala Gly Asn Ser
420 425 430
Arg Arg Leu Lys Thr Tyr Gln Gly Glu Asp Val Ser Met Gly Ile Trp
435 440 445
Met Ala Ala Ile Gly Pro Lys Arg His Gln Asp Ser Leu Trp Leu Cys
450 455 460
Glu Lys Thr Cys Glu Thr Gly Met Leu Ser Ser Pro Gln Tyr Ser Pro
465 470 475 480
Glu Glu Leu Ser Lys Leu Trp Glu Leu Lys Glu Leu Cys Gly Asp Pro
485 490 495
Cys Gln Cys Glu Ala Lys Val Arg
500 504

<210> 5
<211> 37
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: 5' primer for PCR

<400> 5
cccaagcttg ggcctgcaga tcagttggcc ttatttc 37

<210> 6
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: 3' primer for PCR

<400> 6
aacgcggatc cgcgctgtta tcttgcttga catcgacaag ga 42

<210> 7
<211> 56
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: 5' primer for PCR

<400> 7
ggggacaagt ttgtacaaaa aagcaggctt ccctgcagat cagttggcct tatttc 56

<210> 8
<211> 58
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: 3' primer for PCR

<400> 8
ggggaccact ttgtacaaga aagctgggtc ctgttatctt gcttgacatc gacaagga 58

<210> 9
<211> 22
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Igκsignal sequence

<400> 9
Met His Phe Gln Val Gln Ile Phe Ser Phe Leu Leu Ile Ser Ala Ser
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Val Ile Met Ser Arg Gly
20 22

<210> 10
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: FLAG peptide

<400> 10

Asp Tyr Lys Asp Asp Asp Asp Lys
1 5 8

<210> 11
<211> 94
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer OT3

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gtcacgtgga gattacaagg acgacgatga caag
94

<210> 12
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: primer OT20

<400> 12
cgggatccat gcattttcaa gtgcag 26

<210> 13

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer OT21

<400> 13

ggaattcttg tcatcgtcgt ccttg 25

<210> 14

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: 5' primer for PCR

<400> 14

ggagtgttct acgatgccaa t 21

<210> 15

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: 3' primer for PCR

<400> 15

ctgaagcgag caatgaagag 20

<210> 16

<211> 32

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: TaqMan Probe

<400> 16

cactgtcaaa ctttatcagg cagaacaaga gg 32

<210> 17

<211> 37

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: 5' primer for PCR

<400> 17

cccaagcttg ggagcgcggc agatcaatca gccttat 37

<210> 18

<211> 53

<212> DNA

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: 3' primer for PCR

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<210> 19
<211> 248
<212> PRT
<213> Homo sapiens

<220>
<223> b3Gal-T1

<400> 19
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Gln Ala Ile Arg Glu Thr Trp Gly Asp Glu Asn Asn Phe Lys Gly Ile
20 25 30
Lys Ile Ala Thr Leu Phe Leu Leu Gly Lys Asn Ala Asp Pro Val Leu
35 40 45
Asn Gln Met Val Glu Gln Glu Ser Gln Ile Phe His Asp Ile Ile Val
50 55 60
Glu Asp Phe Ile Asp Ser Tyr His Asn Leu Thr Leu Lys Thr Leu Met
65 70 75 80
Gly Met Arg Trp Val Ala Thr Phe Cys Ser Lys Ala Lys Tyr Val Met
85 90 95

Lys Thr Asp Ser Asp Ile Phe Val Asn Met Asp Asn Leu Ile Tyr Lys
100 105 110
Leu Leu Lys Pro Ser Thr Lys Pro Arg Arg Arg Tyr Phe Thr Gly Tyr
115 120 125
Val Ile Asn Gly Gly Pro Ile Arg Asp Val Arg Ser Lys Trp Tyr Met
130 135 140
Pro Arg Asp Leu Tyr Pro Asp Ser Asn Tyr Pro Pro Phe Cys Ser Gly
145 150 155 160
Thr Gly Tyr Ile Phe Ser Ala Asp Val Ala Glu Leu Ile Tyr Lys Thr
165 170 175
Ser Leu His Thr Arg Leu Leu His Leu Glu Asp Val Tyr Val Gly Leu
180 185 190
Ser Leu His Thr Arg Leu Leu His Leu Glu Asp Val Tyr Val Gly Leu
195 200 205
His Trp Lys Met Ala Tyr Ser Leu Cys Arg Tyr Arg Arg Val Ile Thr
210 215 220
Val His Gln Ile Ser Pro Glu Glu Met His Arg Ile Trp Asn Asp Met
225 230 235 240
Ser Ser Lys Lys His Leu Arg Cys
245 248

<210> 20
<211> 271
<212> PRT
<213> Homo sapiens

<220>
<223> b3Gal-T2

<400> 20

Phe Leu Ile Leu Leu Ile Ala Ala Glu Pro Gly Gln Ile Glu Ala Arg
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Arg Ala Ile Arg Gln Thr Trp Gly Asn Glu Ser Leu Ala Pro Gly Ile
20 25 30

Gln Ile Thr Arg Ile Phe Leu Leu Gly Leu Ser Ile Lys Leu Asn Gly
35 40 45

Tyr Leu Gln Arg Ala Ile Leu Glu Glu Ser Arg Gln Tyr His Asp Ile
50 55 60

Ile Gln Gln Glu Tyr Leu Asp Thr Tyr Tyr Asn Leu Thr Ile Lys Thr
65 70 75 80

Leu Met Gly Met Asn Trp Val Ala Thr Tyr Cys Pro His Ile Pro Tyr
85 90 95

Val Met Lys Thr Asp Ser Asp Met Phe Val Asn Thr Glu Tyr Leu Ile
100 105 110

Asn Lys Leu Leu Lys Pro Asp Leu Pro Pro Arg His Asn Tyr Phe Thr
115 120 125

Gly Tyr Leu Met Arg Gly Tyr Ala Pro Asn Arg Asn Lys Asp Ser Lys
130 135 140

Trp Tyr Met Pro Pro Asp Leu Tyr Pro Ser Glu Arg Tyr Pro Val Phe
145 150 155 160

Cys Ser Gly Thr Gly Tyr Val Phe Ser Gly Asp Leu Ala Glu Lys Ile
165 170 175

Phe Lys Val Ser Leu Gly Ile Arg Arg Leu His Leu Glu Asp Val Tyr
180 185 190

Val Gly Ile Cys Leu Ala Lys Leu Arg Ile Asp Pro Val Pro Pro Pro
195 200 205

Asn Glu Phe Val Phe Asn His Trp Arg Val Ser Tyr Ser Ser Cys Lys
210 215 220

Tyr Ser His Leu Ile Thr Ser His Gln Phe Gln Pro Ser Glu Leu Ile
225 230 235 240
Lys Tyr Trp Asn His Leu Gln Gln Asn Lys His Asn Ala Cys Ala Asn
245 250 255
Ala Ala Lys Glu Lys Ala Gly Arg Tyr Arg His Arg Lys Leu His
260 265 270 271

<210> 21
<211> 253
<212> PRT
<213> Homo sapiens

<220>
<223> b3Gal-T3

<400> 21
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Gln Ala Ile Arg Val Thr Trp Gly Glu Lys Lys Ser Trp Trp Gly Tyr
20 25 30
Glu Val Leu Thr Phe Phe Leu Leu Gly Gln Glu Ala Glu Lys Glu Asp
35 40 45
Lys Met Leu Ala Leu Ser Leu Glu Asp Glu His Leu Leu Tyr Gly Asp
50 55 60
Ile Ile Arg Gln Asp Phe Leu Asp Thr Tyr Asn Asn Leu Thr Leu Lys
65 70 75 80
Thr Ile Met Ala Phe Arg Trp Val Thr Glu Phe Cys Pro Asn Ala Lys
85 90 95

Tyr Val Met Lys Thr Asp Thr Asp Val Phe Ile Asn Thr Gly Asn Leu
100 105 110
Val Lys Tyr Leu Leu Asn Leu Asn His Ser Glu Lys Phe Phe Thr Gly
115 120 125
Tyr Pro Leu Ile Asp Asn Tyr Ser Tyr Arg Gly Phe Tyr Gln Lys Thr
130 135 140
His Ile Ser Tyr Gln Glu Tyr Pro Phe Lys Val Phe Pro Pro Tyr Cys
145 150 155 160
Ser Gly Leu Gly Tyr Ile Met Ser Arg Asp Leu Val Pro Arg Ile Tyr
165 170 175
Glu Met Met Gly His Val Lys Pro Ile Lys Phe Glu Asp Val Tyr Val
180 185 190
Gly Ile Cys Leu Asn Leu Leu Lys Val Asn Ile His Ile Pro Glu Asp
195 200 205
Thr Asn Leu Phe Phe Leu Tyr Arg Ile His Leu Asp Val Cys Gln Leu
210 215 220
Arg Arg Val Ile Ala Ala His Gly Phe Ser Ser Lys Glu Ile Ile Thr
225 230 235 240
Phe Trp Gln Val Met Leu Arg Asn Thr Thr Cys His Tyr
245 250 253

<210> 22
<211> 253
<212> PRT
<213> Homo sapiens

<220>
<223> b3Gal-T5

<400> 22

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20 25 30
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35 40 45
Thr Lys Glu Val Asp Gln Glu Ser Gln Arg His Gly Asp Ile Ile Gln
50 55 60
Lys Asp Phe Leu Asp Val Tyr Tyr Asn Leu Thr Leu Lys Thr Met Met
65 70 75 80
Gly Ile Glu Trp Val His Arg Phe Cys Pro Gln Ala Ala Phe Val Met
85 90 95
Lys Thr Asp Ser Asp Met Phe Ile Asn Val Asp Tyr Leu Thr Glu Leu
100 105 110
Leu Leu Lys Lys Asn Arg Thr Thr Arg Phe Phe Thr Gly Phe Leu Lys
115 120 125
Leu Asn Glu Phe Pro Ile Arg Gln Pro Phe Ser Lys Trp Phe Val Ser
130 135 140
Lys Ser Glu Tyr Pro Trp Asp Arg Tyr Pro Pro Phe Cys Ser Gly Thr
145 150 155 160
Gly Tyr Val Phe Ser Gly Asp Val Ala Ser Gln Val Tyr Asn Val Ser
165 170 175
Lys Ser Val Pro Tyr Ile Lys Leu Glu Asp Val Phe Val Gly Leu Cys
180 185 190
Leu Glu Arg Leu Asn Ile Arg Leu Glu Glu Leu His Ser Gln Pro Thr
195 200 205
Phe Phe Pro Gly Gly Leu Arg Phe Ser Val Cys Leu Phe Arg Arg Ile
210 215 220

Val Ala Cys His Phe Ile Lys Pro Arg Thr Leu Leu Asp Tyr Trp Gln
225 230 235 240
Ala Leu Glu Asn Ser Arg Gly Glu Asp Cys Pro Pro Val
245 250 253

<210> 23
<211> 272
<212> PRT
<213> Homo sapiens

<220>
<223> b3Gal-T6

<400> 23
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Ser Val Ile Arg Ser Thr Trp Leu Ala Arg Arg Gly Ala Pro Gly Asp
20 25 30
Val Trp Ala Arg Phe Ala Val Gly Thr Ala Gly Leu Gly Ala Glu Glu
35 40 45
Arg Arg Ala Leu Glu Arg Glu Gln Ala Arg His Gly Asp Leu Leu Leu
50 55 60
Leu Pro Ala Leu Arg Asp Ala Tyr Glu Asn Leu Thr Ala Lys Val Leu
65 70 75 80
Ala Met Leu Ala Trp Leu Asp Glu His Val Ala Phe Glu Phe Val Leu
85 90 95
Lys Ala Asp Asp Asp Ser Phe Ala Arg Leu Asp Ala Leu Leu Ala Glu
100 105 110

Leu Arg Ala Arg Glu Pro Ala Arg Arg Arg Arg Leu Tyr Trp Gly Phe
115 120 125
Phe Ser Gly Arg Gly Arg Val Lys Pro Gly Gly Arg Trp Arg Glu Ala
130 135 140
Ala Trp Gln Leu Cys Asp Tyr Tyr Leu Pro Tyr Ala Leu Gly Gly Gly
145 150 155 160
Tyr Val Leu Ser Ala Asp Leu Val His Tyr Leu Arg Leu Ser Arg Asp
165 170 175
Tyr Leu Arg Ala Trp His Ser Glu Asp Val Ser Leu Gly Ala Trp Leu
180 185 190
Ala Pro Val Asp Val Gln Arg Glu His Asp Pro Arg Phe Asp Thr Glu
195 200 205
Tyr Arg Ser Arg Gly Cys Ser Asn Gln Tyr Leu Val Thr His Lys Gln
210 215 220
Ser Leu Glu Asp Met Leu Glu Lys His Ala Thr Leu Ala Arg Glu Gly
225 230 235 240
Arg Leu Cys Lys Arg Glu Val Gln Leu Arg Leu Ser Tyr Val Tyr Asp
245 250 255
Trp Ser Ala Pro Pro Ser Gln Cys Cys Gln Arg Arg Glu Gly Ile Pro
260 265 270 272

<210> 24
<211> 255
<212> PRT
<213> Homo sapiens

<220>
<223> b3GnT2

<400> 24

Phe Leu Leu Leu Ala Ile Lys Ser Leu Thr Pro His Phe Ala Arg Arg
1 5 10 15

Gln Ala Ile Arg Glu Ser Trp Gly Gln Glu Ser Asn Ala Gly Asn Gln
20 25 30

Thr Val Val Arg Val Phe Leu Leu Gly Gln Thr Pro Pro Glu Asp Asn
35 40 45

His Pro Asp Leu Ser Asp Met Leu Lys Phe Glu Ser Glu Lys His Gln
50 55 60

Asp Ile Leu Met Trp Asn Tyr Arg Asp Thr Phe Phe Asn Leu Ser Leu
65 70 75 80

Lys Glu Val Leu Phe Leu Arg Trp Val Ser Thr Ser Cys Pro Asp Thr
85 90 95

Glu Phe Val Phe Lys Gly Asp Asp Asp Val Phe Val Asn Thr His His
100 105 110

Ile Leu Asn Tyr Leu Asn Ser Leu Ser Lys Thr Lys Ala Lys Asp Leu
115 120 125

Phe Ile Gly Asp Val Ile His Asn Ala Gly Pro His Arg Asp Lys Lys
130 135 140

Leu Lys Tyr Tyr Ile Pro Glu Val Val Tyr Ser Gly Leu Tyr Pro Pro
145 150 155 160

Tyr Ala Gly Gly Gly Gly Phe Leu Tyr Ser Gly His Leu Ala Leu Arg
165 170 175

Leu Tyr His Ile Thr Asp Gln Val His Leu Tyr Pro Ile Asp Asp Val
180 185 190

Tyr Thr Gly Met Cys Leu Gln Lys Leu Gly Leu Val Pro Glu Lys His
195 200 205

Lys Gly Phe Arg Thr Phe Asp Ile Glu Glu Lys Asn Lys Asn Asn Ile
210 215 220

Cys Ser Tyr Val Asp Leu Met Leu Val His Ser Arg Lys Pro Gln Glu
225 230 235 240
Met Ile Asp Ile Trp Ser Gln Leu Gln Ser Ala His Leu Lys Cys
245 250 255

<210> 25
<211> 265
<212> PRT
<213> Homo sapiens

<220>
<223> b3GnT3

<400> 25
Phe Leu Leu Leu Val Ile Lys Ser Ser Pro Ser Asn Tyr Val Arg Arg
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Glu Leu Leu Arg Arg Thr Trp Gly Arg Glu Arg Lys Val Arg Gly Leu
20 25 30
Gln Leu Arg Leu Leu Phe Leu Val Gly Thr Ala Ser Asn Pro His Glu
35 40 45
Ala Arg Lys Val Asn Arg Leu Leu Glu Leu Glu Ala Gln Thr His Gly
50 55 60
Asp Ile Leu Gln Trp Asp Phe His Asp Ser Phe Phe Asn Leu Thr Leu
65 70 75 80
Lys Gln Val Leu Phe Leu Gln Trp Gln Glu Thr Arg Cys Ala Asn Ala
85 90 95
Ser Phe Val Leu Asn Gly Asp Asp Asp Val Phe Ala His Thr Asp Asn
100 105 110
Met Val Phe Tyr Leu Gln Asp His Asp Pro Gly Arg His Leu Phe Val

115 120 125

Gly Gln Leu Ile Gln Asn Val Gly Pro Ile Arg Ala Phe Trp Ser Lys

130 135 140

Tyr Tyr Val Pro Glu Val Val Thr Gln Asn Glu Arg Tyr Pro Pro Tyr

145 150 155 160

Cys Gly Gly Gly Gly Phe Leu Leu Ser Arg Phe Thr Ala Ala Ala Leu

165 170 175

Arg Arg Ala Ala His Val Leu Asp Ile Phe Pro Ile Asp Asp Val Phe

180 185 190

Leu Gly Met Cys Leu Glu Leu Glu Gly Leu Lys Pro Ala Ser His Ser

195 200 205

Gly Ile Arg Thr Ser Gly Val Arg Ala Pro Ser Gln His Leu Ser Ser

210 215 220

Phe Asp Pro Cys Phe Tyr Arg Asp Leu Leu Leu Val His Arg Phe Leu

225 230 235 240

Pro Tyr Glu Met Leu Leu Met Trp Asp Ala Leu Asn Gln Pro Asn Leu

245 250 255

Thr Cys Gly Asn Gln Thr Gln Ile Tyr

260 265

<210> 26

<211> 260

<212> PRT

<213> Homo sapiens

<220>

<223> b3GnT4

<400> 26

Phe Leu Leu Leu Ala Ile Lys Ser Gln Pro Gly His Val Glu Arg Arg
1 5 10 15
Ala Ala Ile Arg Ser Thr Trp Gly Arg Val Gly Gly Trp Ala Arg Gly
20 25 30
Arg Gln Leu Lys Leu Val Phe Leu Leu Gly Val Ala Gly Ser Ala Pro
35 40 45
Pro Ala Gln Leu Leu Ala Tyr Glu Ser Arg Glu Phe Asp Asp Ile Leu
50 55 60
Gln Trp Asp Phe Thr Glu Asp Phe Phe Asn Leu Thr Leu Lys Glu Leu
65 70 75 80
His Leu Gln Arg Trp Val Val Ala Ala Cys Pro Gln Ala His Phe Met
85 90 95
Leu Lys Gly Asp Asp Asp Val Phe Val His Val Pro Asn Val Leu Glu
100 105 110
Phe Leu Asp Gly Trp Asp Pro Ala Gln Asp Leu Leu Val Gly Asp Val
115 120 125
Ile Arg Gln Ala Leu Pro Asn Arg Asn Thr Lys Val Lys Tyr Phe Ile
130 135 140
Pro Pro Ser Met Tyr Arg Ala Thr His Tyr Pro Pro Tyr Ala Gly Gly
145 150 155 160
Gly Gly Tyr Val Met Ser Arg Ala Thr Val Arg Arg Leu Gln Ala Ile
165 170 175
Met Glu Asp Ala Glu Leu Phe Pro Ile Asp Asp Val Phe Val Gly Met
180 185 190
Cys Leu Arg Arg Leu Gly Leu Ser Pro Met His His Ala Gly Phe Lys
195 200 205
Thr Phe Gly Ile Arg Arg Pro Leu Asp Pro Leu Asp Pro Cys Leu Tyr
210 215 220
Arg Gly Leu Leu Leu Val His Arg Leu Ser Pro Leu Glu Met Trp Thr

225 230 235 240

Met Trp Ala Leu Val Thr Asp Glu Gly Leu Lys Cys Ala Ala Gly Pro

245 250 255

Ile Pro Gln Arg

260

<210> 27

<211> 290

<212> PRT

<213> Homo sapiens

<220>

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<400> 27

Leu Leu Leu Leu Phe Val Lys Thr Ala Pro Glu Asn Tyr Asp Arg Arg

1 5 10 15

Ser Gly Ile Arg Arg Thr Trp Gly Asn Glu Asn Tyr Val Arg Ser Gln

20 25 30

Leu Asn Ala Asn Ile Lys Thr Leu Phe Ala Leu Gly Thr Pro Asn Pro

35 40 45

Leu Glu Gly Glu Glu Leu Gln Arg Lys Leu Ala Trp Glu Asp Gln Arg

50 55 60

Tyr Asn Asp Ile Ile Gln Gln Asp Phe Val Asp Ser Phe Tyr Asn Leu

65 70 75 80

Thr Leu Lys Leu Leu Met Gln Phe Ser Trp Ala Asn Thr Tyr Cys Pro

85 90 95

His Ala Lys Phe Leu Met Thr Ala Asp Asp Asp Ile Phe Ile His Met

100 105 110

Pro Asn Leu Ile Glu Tyr Leu Gln Ser Leu Glu Gln Ile Gly Val Gln
115 120 125
Asp Phe Trp Ile Gly Arg Val His Arg Gly Ala Pro Pro Ile Arg Asp
130 135 140
Lys Ser Ser Lys Tyr Tyr Val Ser Tyr Glu Met Tyr Gln Trp Pro Ala
145 150 155 160
Tyr Pro Asp Tyr Thr Ala Gly Ala Ala Tyr Val Ile Ser Gly Asp Val
165 170 175
Ala Ala Lys Val Tyr Glu Ala Ser Gln Thr Leu Asn Ser Ser Leu Tyr
180 185 190
Ile Asp Asp Val Phe Met Gly Leu Cys Ala Asn Lys Ile Gly Ile Val
195 200 205
Pro Gln Asp His Val Phe Phe Ser Gly Glu Gly Lys Thr Pro Tyr His
210 215 220
Pro Cys Ile Tyr Glu Lys Met Met Thr Ser His Gly His Leu Glu Asp
225 230 235 240
Leu Gln Asp Leu Trp Lys Asn Ala Thr Asp Pro Lys Val Lys Thr Ile
245 250 255
Ser Lys Gly Phe Phe Gly Gln Ile Tyr Cys Arg Leu Met Lys Ile Ile
260 265 270
Leu Leu Cys Lys Ile Ser Tyr Val Asp Thr Tyr Pro Cys Arg Ala Ala
275 280 285
Phe Ile
290